Leek Urban District Council.

JOINT REPORT

OF THE

Medical Officer of Health

AND

Sanitary Inspector

ON THE

Sanitary Condition of Leek,

For the Year 1908.

TO THE LEEK URBAN DISTRICT COUNCIL.

Mr. Chairman and Gentlemen,

In submitting my report for the year 1908, I must again point out that as these reports are framed according to the requirements of the Local Government Board and the Staffordshire County Council, there is necessarily a large amount of repetition of previous reports, as a statement of the local circumstances and a history of local sanitary questions, which may seem superfluous to you, may frequently be of the utmost importance to them.

General Local Features.

The Leek Urban Sanitary District covers an area of 1460 acres, and in the highest portion of what is a hilly district, attains an elevation of about 600 feet above sea level; the natural drainage is into the river Churnet.

A line drawn across the middle of the district, due north and south, marks fairly accurately its geological division; on the east of this line is a sub-soil of clay, on the west, one consisting of red sandstone.

Investigations have been made with the view of ascertaining what influence this difference of sub-soil has on the health of the inhabitants, both in respect to the general mortality, and more particularly as to its influence on the mortality from Phthisis, with the somewhat unexpected result that no appreciable difference could be demonstrated.

Further comparative investigations relating to other diseases would be interesting and instructive.

The population is mainly composed of artisans, the chief trade being silk manufacture and silk dyeing.

House Accommodation.

The house accommodation is fairly good, both as regards its adequacy, and fitness for habitation. Four cases of overcrowding have been investigated and reported on, and after notice had been served, the conditions were brought within legal limits, prosecution being rendered unnecessary.

I fear there are many cases best described as borderland cases, which I should heartily rejoice to get rid of, but the dearth of houses having good sized rooms at a low rent makes it impossible, for wages are always comparatively low in many branches of silk manufacture, and especially low at the present time, when the trade is bad and many workers are making short time.

The injurious effects in these borderland cases would be largely counteracted if the people would learn to open the windows more freely and to unstop the chimneys which are stuffed with bags of shavings, etc., or blocked by boards which are frequently papered over. These conditions, which plainly mean want of fresh air and an accumulation of bad air in the bedrooms, have an important bearing on our infant mortality, for infants are most susceptible to a poisonous atmostphere, and either die in the early months, or surviving these, grow up poor miserable undersized weaklings.

A sufficiency of open space about the houses is much more apparent in the more recently erected buildings, and their surroundings are clean. There are only fourteen back-to-back houses in the whole district, ten of these have two large bedrooms with good windows; each house being provided with separate water-closet.

Supervision is constantly exercised over the erection of all new dwellings.

Sewerage and Drainage.

The portions of the district requiring drainage improvement to which I have referred in previous reports, viz.: the west out-fall at Black Acres and the Wharf vicinity, are now receiving the attention of a special sub-committee which is formulating schemes to deal with them effectively. The legal difficulties involved make progress extremely slow.

Sewage Disposal.

The new installation is working well and continues to give good results. The character of our crude sewage is of such unusual strength that in order to deal effectively with the whole volume we shall probably require double or treble our filter capacity, otherwise the present filters will be overworked and the effluent will consequently suffer in quality.

That a first rate effluent can be, and is obtained, is shown by a recent report of Mr. J. Carter Bell, from which may be seen a reduction in Albumenoid Ammonia from ·06 to ·08 grains per gallon, and an increase of total purification from 91 to 97·3 per cent. as compared with November, 1907.

During the hot weather in June which was accompanied by strong easterly winds, complaints were received of smells coming from the direction of the sewage farm. As the only departure from the ordinary treatment of sewage was the presence of a shallow experimental lagoon, holding the septic tank effluent, this was removed from the canal side to the railway side of the farm, and later, in order to avoid any repetition of complaint the committee determined to abandon this form of treatment.

SEWAGE AND EFFLUENT CERTIFICATE.

All results are expressed in grains per gallon.

	Crude Sewage. No. 1.	Septic Tank Effluent. No. 2.	Filter Effluent. No. 3.	Analysis of a First Class Effluent for Comparison.
Appearance in Tube	Brownish	Cloudy.	Clear.	Clear.
Smell when heated to 100° F. ...	Sewage	Faint Sewage	Earthy.	nil.
Total Solid Matter at 212° F. in Solution	186	47	45	65
Total Mineral Matter at 356° F. ...	174	39	40	63
Loss	12	8	5	2
Chlorine in Chlorides	10·5	7·5	8·5	18
Nitrogen in Nitrites	Heavy Traces.	Heavy Traces.	Traces.	nil.
Nitrogen in Nitrates...	nil.	...	·9	·30
Free Ammonia	5·0	...	Trace.	·40
Albumenoid Ammonia	1·6	...	·08	·06
Oxygen Absorbed { 3 minutes at 60°	11·6	...	·25	·10
Oxygen Absorbed { 4 hours at 60° ...	25·7	3·6	·68	·4
Alkalinity calculated as Free Lime	nil.	nil.	nil.	nil.
Microscopical Exam. of the Deposit	Organic	Organic	Organic	nil.
Suspended Matter	859	...	Traces.	nil.

This is a very bad Sewage, The Suspended matter being very high. The Final Effluent is a first-class one, and shows a percentage purification of 97·3 on the Sewage and 81 upon the Septic Tank. The Septic Tank shows a purification of 86 per cent. upon the Sewage.

Dated November 30th, 1908.

J. CARTER BELL,
County Analyst.

Excrement Disposal.

The system in vogue for the disposal of excrement is mainly the water-carriage system, the remaining privies being gradually replaced by wash-down closets, either hand-flushed or furnished with flushing apparatus. During the year 32 privies have been demolished or converted into water-closets.

Removal and Disposal of House and Trade Refuse.

The removal of house refuse is accomplished by the public scavengers employed by the Council, who make weekly rounds to collect the contents of about 2,500 movable receptacles; otherwise where ashpits exists these are emptied on notice being sent to the Authority. During the year 25 offensive uncovered ashpits have been abolished. Suitable covers of tarpaulin are provided for the ashes cart.

The disposal of refuse consists in its being emptied on the "tip." I have long advocated a Destructor as the most sanitary method of refuse disposal, but I am bound to admit that the "tipping" as at present carried out at the sewage farm is robbed of many of its objectionable features, inasmuch as the refuse is levelled and covered over with a good layer of earth, thus obviating the nuisance associated with the ordinary tip.

Constant supervision is necessary to prevent the exposure of a large tipping surface, it should be covered with soil almost as it is tipped, otherwise the decomposing matter may give rise to evil smells for which the sewage works are likely to receive the blame.

The want of a "destructor" is perhaps more keenly felt for the final disposal of "trade refuse" accumulating from butchers', fishmongers', provision dealers', greengrocers', fried fish and tripe shops; this is not collected with house refuse and leads occasionally to cases of nuisance. Of all kinds of refuse this is surely the worst, and requires destruction by fire.

Water Supply.

The water supply is one of which we are justly proud: taking its origin in a series of deep springs in the millstone grit of the Roches which are all carefully covered in, the water is carried directly, practically without storage to the town. The only approach to storage consists in the use of a reservoir situated on the outskirts of the town, which receives the surplus water during the night, this is reduced by the increased demand during the day, diminishing the pressure in the mains, and allowing a flow from the reservoir through an automatic valve. The supply is sufficient, wholesome, and free from risk of serious pollution.

There is no necessity for storage in cisterns on the premises as the supply is on the "constant" system.

Lodging-houses, slaughter-houses, bake-houses, dairies, cowsheds, etc., are dealt with in detail in the Inspector's Report.

Infectious Diseases and Isolation Hospital.

Infectious diseases are as far as possible dealt with at the Isolation Hospital; true isolation in the homes

being well nigh an impossibility. In this connection I heartily endorse the remarks of the Inspector.

We have now ample accommodation for 18 cases, distributed as follows :—

(1) In the east block, two large wards of 6 beds each.

(2) In the west block, one ward of 3 beds, and on the other side of the block 3 observation wards, each accommodating one patient ; these small wards have each a door opening into a covered way to the out-offices.

(3) A discharging block, comprising an undressing room, a bath room, a dressing room, in which the disinfected clothing is put on, and a waiting room for friends of patients.

(4) A Nurse's block, comprising a sitting room, 3 bedrooms, bathroom, etc.

The extra accommodation and convenience in arrangement have been highly appreciated during the year's work. The small observation wards having proved especially useful.

Disinfection.

Disinfection is effected by means of the dense fume of vaporised carbolic acid, produced by a portable apparatus designed by Mr. Farrow, more than twenty years ago, and now made by Messrs. Calvert, of Manchester. This

method has been constantly used in this district since that time; it is rapid, clean, efficient, is not injurious to furniture or metal work, and in no way affects the colours of pictures, wallpapers, or delicate fabrics; all great advantages over the sulphur method.

Half-a-pound of phenol can be converted into vapour in three minutes, and is sufficient for the disinfection of a room of the capacity of 1,000 cubic feet.

I have personally proved the efficacy of this vapour by extended bacteriological experiments, and beg to call the attention of the various Authorities of the County to this simple means of room disinfection; the results obtained with mattresses, bedding, etc., were not, however, satisfactory; for these articles current steam should be used.

We have a "Thresh's Emergency Disinfector," which is kept at the Isolation Hospital; it is portable, and is available for use in the proximity of any house where required. We have also a properly constructed hand-cart for the conveyance of infected bedding, etc., either to the "Disinfector" or to destruction by fire.

Vital Statistics.

Births.

The number of Births registered during the year was 367, which is 42 below the average for the preceding ten years, yielding a rate of 22·1 per 1,000. This is 3·8 lower than the birth rate for the preceding ten years, and one of the lowest ever recorded. There were thirteen still births during the year.

Deaths.

The total number of Deaths registered was 277, which is five less than the ten years' average, and yields an uncorrected death rate of 16·7 per 1,000, as against 17·9 the average of ten preceding years; this mortality rate, when the necessary corrections have been made, becomes 16·2 per 1,000 of the population.

Infant Mortality.

Turning to the Infant Mortality which is undoubtedly the black spot in our Vital Statistics, 52 deaths have occurred in infants under the age of one year, or 9·3 below the preceding 10 years' average (61·3); the rate per 1,000 births working out at 141·6 as compared with 149·0 for the previous decade.

Notification of Births Act.

Since the appointment of Nurse Hall as Health Visitor in March last, much valuable work has been done by her: she has been well received, and I have heard many expressions of gratitude showing how highly her services have been appreciated.

It must, however, be remembered that all educational work is slow in yielding results, and there is no need to lose heart because an immediate impression is not made as shown in a rapid reduction of the Infant Mortality, this reduction will come about very gradually.

I give below Nurse Hall's report, and though the total number of cases is too small from which to draw

any definite conclusions, it is interesting to note that out of 118 breast fed babies there were 6 deaths = 5 per cent., of 73 breast and bottle fed there were 3 deaths = 4 per cent.; while of 68 entirely bottle fed babies there were 11 deaths or 16 per cent.

To the Medical Officer of Health for the Leek Urban District.

During the nine months, from March 30th (when I took up my duties as Health Visitor) to December 31st, 272 houses, where births have occurred, have been visited. Of these children 13 were still-born, and of the remaining 259 living babies 118 were entirely breast fed, 73 breast and bottle, or breast and hand fed, and 68 entirely bottle fed.

In each house, cards, giving hints on "Infant Feeding," have been supplied, and in most cases personal advice and instruction given.

I have made 933 return visits—making a total of 1,205—in order to see the progress of the babies, and if possible to find out whether advice was being acted upon, and where necessary reiterating it.

Of these 259 infants 81 are tended during the day by nurses, the mothers returning to their work at the end of the first or second month, and these *old* women, who are usually chosen for this office, are perhaps the greatest hindrance to improvements in the care and feeding of infants. Work is slack just now or a greater number of women would have returned to the mills.

The *young* mothers appear willing to learn, and I have been encouraged in a good few cases by finding they adhere to the rules laid down on the card which has been left at my first visit. On the other hand, there are the careless, shiftless mothers, whom, apparently, nothing would influence, except punishment in some form.

The hygienic tubeless bottle is gradually, if only gradually, superseding the old fashioned long tubed ones. Dummy teats are difficult to fight, and I am afraid I have had very little success in this direction.

There have been 20 deaths, occuring during the period of my inspection, which is till each child is four months old.

Feeble from Birth.

1	At the age of	two months—	breast fed.
1	,, ,,	three weeks—	bottle fed.
1	,, ,,	ten days—	breast fed.
1	,, ,,	fourteen days—	hand fed.
2	,, ,,	one month—	bottle fed.

Digestive Disorders.

2	At the age of	two months—	one breast, one bottle fed.
2	,, ,,	three months—	bottle fed.

Suddenly.

3	At the age of	nearly four months—	all breast and bottle fed (inquest in case of two).

Prematurity.

1	At the age of	three months—	bottle fed (Atrophy).
1	,, ,,	three weeks—	breast fed.

Atrophy.

1 At the age of three months—bottle fed. A careless mother.

Pneumonia and Bronchitis.

1 At the age of three months—breast fed.
1 ,, ,, five weeks—bottle fed.

Infantile Diarrhœa.

1 At the age of nearly four months—breast fed (dirty surroundings, gipsies).

Spina Bifida.

1 At the age of nearly four months—bottle fed.

20 Total. L. HALL.

Mean Age at Death.

The mean age at death of each deceased individual is 39·8 years, as compared with 24·8 years for the decade 1851-60; 32 years, 1861-70; 37·2 years, 1891-1900; and 39·3 years for the 7 years, 1901-1907.

Ages at Death.

Under 1 year	52
Between 1 and 5 years... ...	25
,, 5 ,, 15 ,, ...	11
,, 15 ,, 25 ,, ...	13
,, 25 ,, 65 ,, ...	86
Over 65 years	82

There were three uncertified deaths in the district during the year.

The 3 to 5 Age Period.

It is, in my opinion, a mistake to send children under 5 years of age to school. From 3 to 5 years is not only the period of greater frequency of measles and whooping cough, but is also the most fatal period. At this age therefore the congregating of children at school is dangerous; the law does not compel attendance, but grant is paid on the attendance, which naturally the school authorities do their best to keep up; mothers also make it convenient to get rid of the children for part of the day while they are at work in the mills. Briefly, the result is an increase of "preventable" deaths; a lowered physical and mental condition of the children, and an expenditure of about a million of money a year (on this age period) out of the pockets of the taxpayers.

I strongly urge the Education Authority to exercise to the full whatever power they possess, on the side of the children. Another argument in favour of the exclusion of children of this age is the room which would be created for older children, and just now when the building of new schools is contemplated, this becomes a very serious consideration.

Causes of Death.

Zymotic Class.

The Zymotic class of diseases is responsible for 23 deaths, the average for the previous ten years being 25·9; of these 3 each were attributed to whooping cough and rheumatism, 1 to diarrhœa, 7 to enteric fever, 2 each to epidemic influenza and scarlet fever, and 1 to diphtheria.

In all cases of infectious disease the premises have been promptly inspected, and careful investigation made to discover the source of infection, any sanitary defects discovered being remedied forthwith.

The local milk supply was free from suspicion in every instance.

Eighteen cases of scarlet fever, 32 cases of diphtheria, 7 cases of erysipelas, 1 case of puerperal fever, and 9 cases of enteric fever were notified during the year, of which 17 scarlet fever, 18 diphtheria, and 9 enteric fever, were removed to the Isolation Hospital, giving a total of 44 removals to hospital out of 57 cases notified, or 78·4 per cent., or more fairly, calculating the percentage on diphtheria, scarlet and enteric fever cases, the removals amount to 88·0 per cent. of notifications.

During December 3 cases of enteric fever were notified, all apparently due to the infection of mussels eaten at the November Fair, the shellfish were traced through a dealer in the Potteries to Deganwy, North Wales; the authorities there were unable to throw any light on the matter, but expressed the opinion that contamination of the mussels was improbable. I am bound to disent from this view. As this report is in preparation, I notice there has recently been an outbreak of enteric fever at Atherton. Thirteen cases were traced to eating mussels, four of the cases proving fatal.

Phthisis.

Phthisis has been responsible for 29 deaths, the average for the preceding ten years being 26·1.

Phthisis is now generally considered to be a dirt or filth disease, and I feel sure that if habits of cleanliness were more frequently practised, together with the admission of plenty of fresh air, especially through the open bedroom windows during hours of sleep, the number of cases of this terrible disease would rapidly diminish.

The "open air" treatment is simply "ventilation" treatment, and it is far easier to prevent than to cure, therefore I urge free ventilation of all rooms, and especially of bedrooms in which such a large proportion of our time is spent.

I am pleased to report that since the commencement of the house to house inspection by the inspector no less than 326 bedrooms have been properly ventilated, provided always that people will recognise the fact that a window is made to open. There is much to be said in favour of the adoption of windows which cannot be completely closed. If free ventilation and cleanliness were more generally practised, we should have fewer and fewer cases of phthisis, and less money would be required from the rates to build and keep up Sanatoria for the treatment of consumptives. If preventive measures are ignored, Sanatoria are bound to be required, and it seems to me such a foolish policy and waste of money to begin at the wrong end of the business.

The Phthisis notification of death post cards from the Registrar to the Sanitary Inspector have been of great service in supplying early information, enabling disinfection to be carried out in every case without delay. I am glad to add that no opposition to this procedure is encountered.

Diphtheria.

Diphtheria has been responsible for 1 death out of a total of 22 cases notified. This tends to indicate the generally mild character of the cases, in fact our estimate of diphtheria needs considerable modifying, for since the adoption of the bacteriological diagnosis much of our previous clinical experience has needed revision. All this means the notification of many mild cases which previously escaped recognition; undoubtedly these very mild cases are of the utmost importance, constituting as they do a great danger to the community, for a child may contract severe diphtheria from a very mild case. Hitherto a certain amount of laxity has prevailed concerning these mild cases, the sore throat has soon been well and apparently clean, and unfortunately patients have been allowed to mix with other children; in this way I feel convinced we may account for many cases, personal contact at school or at play being a far more important factor in spreading the disease than are so called sanitary defects in the houses.

To diminish the risk of infection in schools I would like to see every school provided with a sterilizer in which all articles such as books, pencils, slates, etc., used by the children would receive their daily purging from infectious impurities. This may sound somewhat extreme, but if infection is to be fairly tackled in its happiest hunting ground, *i.e.*, the school, why hesitate to make it compulsory to erect a disinfector or sterilizer in every school premises? The lives saved might be many, and the time saved owing to infectious disease absence would be incalculable.

Another method which I am pleased to say is

receiving trial in one school in the town, is disinfection of the walls and floors by means of a spray.

The Bucks Education Committee has been experimenting in the disinfection of schools under its control, with a view to the restriction of infectious diseases. At a recent meeting of the Committee it was stated that for the past six months the floors of twenty-five schools in the county have been sprayed nightly with a liquid germicide, and the attendance compared with that at a similar number of schools in which the process has been omitted. The cost up to date has been £22 10s. and the calculated increase of grants due to the additional attendance in the disinfected schools, as compared with the non-disinfected schools, amounts to £37 7s. 6d.

I strongly urge the authorities in every school to follow this example, the initial cost of a good spray is small, the labour involved is not great, and the increased health of the children is of even more importance than an increase in the grant on attendance.

Local Diseases.

In the class of local diseases the mortality from diseases of the brain and nervous system was 39, the average for 10 years being 35·6; that from heart affections 50, the 10 years' average being 35·3; that from diseases of the digestive organs 28, the average for ten years being 24·7; that from diseases of the respiratory organs 32, the 10 years' average being 42·9, and that from malignant disease 9, the 10 years' average being 11·0.

As these diseases are chiefly the result of mistaken

and injurious habits of life, influenced very considerably by economic conditions, we do not find that improved sanitation has much influence over them, although in other classes this agency has been most effectual, as demonstrated by the fact that within the last 48 years the rate of mortality has been reduced 30 per cent., and the duration of life increased 30 per cent., as compared with the 10 years ending 1860.

There is nothing more in this year's mortality returns requiring special comment, and I append table giving principal causes of death in 1908:—

	Number of Deaths.	Average of preceding 10 years.	Mortality per 1,000 of population.
Influenza	2	1·9	0·12
Measles	3	6·8	0·18
Scarlet Fever...	2	0·6	0·12
Diarrhœa	1	1·1	0·06
Diphtheria and Membranous Croup	2	1·2	0·12
Enteric Fever...	7	2·7	0·42
Erysipelas	0	1·8	0·00
Whooping Cough	3	3·3	0·18
Rheumatism	3	2·0	0·18
Total Zymotic Diseases ...	23	21·4	1·39
Phthisis	29	26·1	1·81
Bronchitis, Pleurisy, and Pneumonia	30	41·6	1·80
Heart Disease	50	35·3	3·02
Cancer...	9	11·0	0·54

Vaccination.

Through the courtesy of the Vaccination Officer, I am able to give figures relating to the last 12 years' experience in this District.

	Births.	Vaccinated.	Exemptions.	Insusceptible.	Removed.	Dead.	Postponed.
Average for 10 years 1897 to 1906	413·7	227·8	62·3	·4	9	41	13·8
1907	384	162	117	0	5	36	24
1908	364	83	213	1	5	29	33

The figures in these columns apply only to those children registered during the year, a proportion of which still remain under the vaccination age.

We cannot ignore the fact that there is a considerable opposition to vaccination, in spite of improved methods, vaccination performed at the home, and the use of glycerinated lymph.

The number of exemptions is 55 per cent. of the total number of births registered, which is much too high for the safety of the community.

As far as I am able to judge, vaccination is efficiently performed. It is, however, a matter of regret that the Act does not compel the private practitioner to vaccinate in four places as the public vaccinator is obliged to do. It would also, in my opinion, improve the efficiency of

vaccination if the Government supplied lymph to all practioners, inspected the work done, and paid the fees.

The following tables are compiled in the form required by the Local Government Board and the Staffordshire County Council.

During the year the usual inspections of the district have been made and monthly reports have been submitted to the Sanitary Committee, in which any question specially affecting the health of the town has been referred to, and when necessary, suggestions submitted indicating the steps required to achieve a better condition of affairs.

J. MOUNTFORT JOHNSON, M.D.,
Medical Officer of Health.

"TABLE I."—Vital Statistics of Whole District during 1908 and previous years.

Year.	Population estimated to middle of each Year.	Births.		Total Deaths Registered in the District.				Total Deaths in Public Institutions in the District.	Deaths of Non-residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	Nett Deaths at all ages belonging to the District.	
				Under 1 Year of Age.		At all Ages.						
		Number.	Rate. *	Number.	Rate per 1,000 Births registered.	Number.	Rate. *				Number.	Rate. *
1	2	3	4	5	6	7	8	9	10	11	12	13
1898	15174	437	28·7	59	135·0	267	17·5	32	9	...	258	17·0
1899	15242	376	24·6	74	196·8	323	21·1	40	16	...	307	20·1
1900	15386	414	26·9	59	142·5	280	18·2	40	20	...	260	16·9
1901	15509	406	26·1	68	167·4	294	18·9	38	18	1	277	17 8
1902	15562	422	26·9	70	165·8	298	19·0	36	14	2	286	18 2
1903	15726	420	26·6	56	133·3	277	17·6	37	15	2	264	16 7
1904	15921	422	26·5	71	168·2	302	18·9	38	19	6	289	18·1
1905	16150	425	26·3	51	120·0	248	15·3	37	16	1	233	14·4
1906	16314	376	23·0	49	130·3	263	16·1	34	14	2	251	15·3
1907	16429	392	23·8	56	142·8	272	16·4	36	19	1	254	15·4
Averages for years 1898-1907	15741	409	25·9	61·3	149·8	282	17·9	36·8	16	1·5	267·9	17 0
1908	16534	367	22·1	52	141·6	277	16·7	35	9	1	269	16·2

* Rates in Columns 4, 8, and 13, calculated per 1,000 of estimated population.

Note.—The deaths to be included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the District or Division. The deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

"The Public Institutions" to be taken into account for the purposes of these Tables are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses, and lunatic asylums.

Area of District in acres (exclusive of area covered by water) 1460; total population at all ages, 15,484; number of inhabited houses, 3,380; average number of persons per house, 4·58, at census 1901.

"The Public Institutions" in respect of the deaths, in which corrections have been made, are Leek Union Workhouse, Leek Cottage Hospital, and North Stafford Infirmary, Stoke.

"TABLE III."

Cases of Infectious Disease Notified During the Year 1908.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.							Cases Removed to Leek Isolation Hospital.
	At All Ages.	Under 1.	1 to 5.	5 to 15.	15 to 25	25 to 65	65 and upwards.	
Small-pox ...	...	...	..	...	...	...	...	...
Cholera ...	...	...	...	...	...	...	...	..
Diphtheria ...	22	...	7	8	4	3	...	18
Membranous Croup ...	...	...	...	...	...	...	...	...
Erysipelas ...	7	...	1	..	1	5	...	...
Scarlet Fever ...	18	...	5	9	3	1	..	17
Typhus Fever...	...	...	...	...	...	...	...	...
Enteric Fever...	9	...	..	2	3	4	...	9
Relapsing Fever	...	...	...	...	...	...	...	...
Continued Fever	...	...	...	...	...	...	...	...
Puerperal Fever	1	...	...	...	...	1	..	...
Chicken Pox ...	...	...	...	...	...	...	...	...
Totals ...	57	...	13	19	11	14	...	44

"TABLE IV."

Causes of, and Ages at, Death during Year 1908, in the Leek Urban District.

Causes of Death.	Deaths in or belonging to Whole District at subjoined Ages.							Total Deaths in Public Institutions in the District.
	All Ages.	Under 1 Year.	1 and under 5.	5 and under 15	15 and under 25.	25 and under 65.	65 and upwards.	
Small-pox	...	...	...	...	...	...	...	...
Measles	3	1	2	...	...	...	...	...
Scarlet Fever	2	...	2	...	...	...	...	1
Whooping-cough ...	3	1	2	...	...	...	...	...
Diphtheria and Membranous Croup ...	1	...	1	...	...	...	...	1
Croup	...	...	...	...	...	.	...	...
Fever—Typhus ...	...	...	...	...	...	...	...	...
Fever—Enteric ...	6	...	1	...	3	2	...	5
Fever—Other continued	...	...	...	...	...	...	...	...
Epidemic Influenza . .	2	...	...	...	...	2	..	...
Cholera	...	...	...	...	...	...	...	...
Plague...	...	...	...	...	...	...	...	...
Diarrhœa	1	1	...	...	...	...	..	...
Enteritis	9	8	1	...	...	...	...	...
Puerperal Fever ..	...	...	...	...	...	..	...	..
Erysipelas	...	...	...	...	...	..	...	...
Other Septic Diseases	1	...	...	...	...	1	...	...
Phthisis	29	...	1	2	6	20	...	4
Other Tubercular Diseases	2	1	...	...	...	1	...	...
Cancer, Malignant Disease	9	...	...	...	...	5	4	1
Bronchitis	18	6	1	...	1	4	6	1
Pneumonia	11	3	3	...	1	4	...	1
Pleurisy	1	...	...	...	...	...	...	...
Other Diseases of Respiratory Organs	2	...	...	...	...	1	..	...
Alcoholism } Cirrhosis of Liver } ...	...	...	...	...	...	..	...	...
Venereal Diseases ...	...	...	...	...	...	...	...	...
Premature Birth ...	7	7	...	...	...	...	...	...
Diseases and Accidents of Parturition	1	..	...	...	...	1	...	...
Heart Diseases ...	50	3	...	1	...	24	22	6
Accidents	1	...	...	1	...	...	...	1
Suicides	...	...	...	...	...	...	...	...
All other causes ...	109	21	11	7	1	21	50	14
All causes...	269	52	25	11	13	86	82	35

"TABLE V."

Infantile Mortality during the Year 1908.

Deaths from stated Causes in Weeks and Months under One Year of Age

Cause of Death	Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total under 1 month	1-2 Months	2-3 Months	3-4 Months	4-5 Months	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10-11 Months	11-12 Months	Total deaths under 1 Year.
Common Infectious Diseases:																	
Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chicken-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Scarlet Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria: Croup	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Whooping Cough	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
Diarrhœal Diseases:																	
Diarrhœa, all forms	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Enteritis (*not Tuberculous*)	1	...	...	...	1	1	...	1	2	2	...	...	...	...	...	1	8
Gastritis, Gastro-intestinal Catarrh	...	...	...	...	...	...	2	...	1	...	...	...	...	...	...	...	3
Wasting Diseases:																	
Premature Birth	...	5	2	...	...	7	...	...	...	...	...	...	...	...	...	...	7
Congenital Defects	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	1
Injury at Birth	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Want of Breast-milk	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Atrophy, Debility, Marasmus	1	1	...	...	2	...	...	...	...	...	...	...	...	...	...	...	2
Tuberculous Diseases:																	
Tuberculous Meningitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculous Peritonitis, Tabes Mesenterica	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Tuberculous Diseases	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Erysipelas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Syphilis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Rickets	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Meningitis (*not Tuberculous*)	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Convulsions	...	1	...	...	1	1	1	1	1	...	...	...	...	1	...	...	6
Bronchitis	...	...	...	...	...	...	...	...	1	...	...	1	...	2	1	1	6
Laryngitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pneumonia	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	...	3
Suffocation, overlaying	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Causes	...	1	...	...	1	1	2	...	3	...	1	1	1	...	1	...	11
All Causes—Certified	...	9	3	1	13	5	6	2	9	3	1	2	4	3	2	2	52
Uncertified	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Births in the year { Legitimate 307. Illegitimate 20.

Deaths from all Causes at all Ages 269.

Population. Estimated to middle of 1908.—16,534.

ANNUAL REPORT

OF THE

Medical Officer of Health,

FOR THE YEAR 1908,

FOR THE

URBAN DISTRICT OF LEEK,

ON THE

Administration of the Factory and Workshop Act, 1901, in connection with Factories, Workshops, Laundries, Workplaces and Homework.

1.—INSPECTION.

Inspections made by Sanitary Inspector or Inspector of Nuisance.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions
1	2	3	4
Factories ... ... (Including Factory Laundries)	25	14	..
Workshops ... ... (Including Workshop Laundries)	69	8	...
	94	22	...

2.—DEFECTS FOUND.

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied.	Referred to H.M. Inspector.	
1	2	3	4	5
**Nuisances under the Public Health Acts:—*				
Want of Cleanliness	...	...	...	...
Want of Ventilation	...	...	...	...
Overcrowding	...	...	...	...
Want of Drainage of Floors ...	2	2	...	...
Other Nuisances	...	...	...	...
†*Sanitary Accommodation:—*				
Insufficient	6	4	...	...
Unsuitable or Defective	13	11	...	...
Not Separate for Sexes	1	1	...	...
Total	22	18	...	...

* Section 22, Public Health Act Amendment Act 1890 in force here.
† The Sanitary Accommodation Order of 4th February, 1903.

3.—HOME WORK.

NATURE OF WORK.	OUTWORKERS' LISTS, SECTION 107.								Number of Inspections of Outworkers' premises.
	Lists received from Employers.				Numbers of Addresses of Outworkers received from other Councils.	Numbers of Addresses of Outworkers forwarded to other Councils.	Prosecutions.		
	Twice in the Year.		Once in the Year.				Failing to keep or permit inspection of lists.	Failing to send lists.	
	Lists.	Out-Workers.	Lists.	Out-workers.					
1	2	3	4	5	6	7	8	9	10
Wearing Apparel—									
(1) Making, &c... ...	1	90	5	180	...	18	...	...	75
(2) Cleaning and washing	...	...	..	...	...	...	...	...	...

4—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year.	Number.
1	2
Dressmakers, Tailors, Milliners, and Hosiery Establishments...	70
Bakehouses	19
Cabinet Makers, Joiners, Carriage Builders, Wheelwrights, and Woodcarvers	29
Boot, Shoe, and Clog Repairers	16
Blacksmiths, Cycle Repairers, Tinsmiths and Plumbers ...	20
Saddlers, Coopers, Painters, Sculptors, Timber Yards ..	7
Basket Makers, Rope Walks, Whip-lash Making	4
Cardboard Box Making, Silk Balling, Silk Warehouses ...	20
Trimming Warehouse	1
Total Number of Workshops in Leek ...	185

One Underground Bakehouse in use at end of year,

J. MOUNTFORT JOHNSON, M.D.,

MEDICAL OFFICER OF HEALTH.

SANITARY INSPECTOR'S REPORT.

ACTION TAKEN FOR THE ABATEMENT OF NUISANCES, ETC.

During the year ending December, 1908, the following cases of Nuisance and other matters complained of were dealt with, comprising:—

	CASES
Defective or want of private drainage ...	64
Choked Sewers	3
Slop-stone drains admitting sewer gas into a house disconnected	16
Defective water closets	29
Offensive privies	32
Offensive ashpits	23
Accumulation of offensive matter	10
Offensive privy cesspools filled up	32
Want of drain ventilation	7
Dilapidated buildings..	1
Houses in a filthy condition	6
Nuisances arising from overcrowding	4
Defective water spouting	4
Want of proper water supply	1
Want of proper bedroom ventilation	43
Slaughter-house nuisance	1
Want of proper waste-pipe to lavatory	6
Want of proper receptacle for stable manure ...	3
Poultry kept in dwelling house contrary to Bye-Laws	2
Samples of petroleum taken and tested	4

	CASES
Want of proper through ventilation	20
Marine stores kept as to be a nuisance	1
Dangerous well filled up	1
Keeping an unregistered cowshead	1
Keeping pigs within 60 feet of dwelling house ...	1
Discharging chemical trade refuse into sewer ...	1
Escape of coal gas from gas main	3
Want of w.c. accommodation in factories ..	14
Registered lodging house not kept clean	1
Offensive swill tubs	3
Want of proper paving in private yards attached to dwelling houses	26
Want of proper privy or water closet accommodation	37
Want of proper movable receptacles for ashes ...	45
Nuisance arising from dense black smoke ...	3
Number of houses disinfected	101
Number of schools disinfected	4
Number of infected articles, bedding, etc., disinfected	1717
Number of houses unfit for human habitation closed	10
Number of closed houses made fit for habitation ...	0

A considerable number of nuisances were promptly abated on their being intimated to the persons responsible.

There are several unexpired notices of nuisances remaining on the books not yet complied with.

Offensive Privies and Cesspools.

	CASES
Offensive privies demolished or converted into water closets	32
Offensive ashpits abolished, and portable receptacles provided in lieu thereof	25

Removal of Ashes and Nightsoil.

The Scavenging Department removed 4553 loads of house ashes and garbage, compared with 4720 during the preceding year, and 110 loads of nightsoil, compared with 173 the preceding year.

The Council, having regard to the ease with which wooden receptacles become saturated with offensive and insanitary matter, and to the short life of the same, have instructed me to see that in future only proper movable covered galvanized iron receptacles are provided.

Since the abolition of offensive ash-pits began, the number of loads of ashes has decreased by 433 loads per annum.

Common Lodging-Houses.

There are 4 houses registered under the Common Lodging-houses Acts, for the reception of 111 casual lodgers. The regulations approved by the Local Government Board for their management are being satisfactorily observed. The Superintendent of Police continues to act as Assistant Sanitary Inspector in respect of Common Lodging-houses at a salary of £10 per annum.

Slaughter-Houses.

There are 7 premises situate at various points in the town licensed for occupation as Slaughter-houses.

Workshops.

There are 185 Workshops on the Register, all of which have been inspected from time to time as occasion

required. On eight occasions I have had to complain of contraventions of the provisions of the Act. The number of persons employed in December were as follows:—

Sex.	AGES.			Total
	12 and under 14	14 and under 18.	18 and upwards.	
Males	4	64	367	435
Females	6	65	177	248
Persons	10	129	544	683

Bakehouses.

There are 19 Bakehouses within the district, all of which were inspected half-yearly, and at other times as occasion required. The number of persons employed being 4 males between 14 and 16 years of age, 41 over 16 years of age, 2 females between 14 and 16 years of age, and 2 over 16 years.

Petroleum Stores.

There are 6 Licenses in force for the keeping and sale of Petroleum that flash under 73 degrees Fahrenheit's thermometer (the maximum quantity stored never to exceed 60 gallons); 1 license for the storage of 500 gallons of petroleum (wholesale only), and one for the keeping and sale of Calcium Carbide. There are also 2 private storehouses for the keeping of Petroleum under the Home Secretary's order.

Gas Supply.

The purity of the Gas supplied to the town was tested from time to time in the manner required by the 34th and 35th Vic., chap. 41. Impurity arising from

the presence of sulphuretted hydrogen (which is deemed a nuisance injurious to health) was shown by the tests made at the Town Hall, on various occasions in January, February, October, November and December, the cause of same being found to be defective valves in the purifying boxes.

Notification of Infectious Disease.

During the year, 57 cases of Infectious Diseases, consisting of 18 cases of scarlet fever, 22 of diphtheria, 9 of enteric fever, 1 of puerperal fever, and 7 of erysipelas were notified, and the necessary steps taken to prevent the spread of the disease. The source of milk supply is recorded in every case of infectious disease notified, and we have no evidence of any mischief resulting from its distribution. All children of school age residing in the house are prevented attending school for a period, and the headmaster promptly notified of the cause of their absence.

Isolation Hospital.

Year ending December, 1908.

Number of patients	in Hospital, Jan. 1st, 1908	...	5
Do.	do.	admitted during the year	...	44
Do.	do.	discharged	do.	...	39
Do.	do.	died	do.	...	7
Do.	do.	in Hospital, Dec. 31st, 1908	...	3

The average duration in Hospital of each patient discharged or died was 28·3 days.

Interments within the Town.

During the year ending December, 1908, 1 interment took place in the Burial Ground attached to St. Edward's

Church, and 3 in the ground attached to Mount Pleasant Wesleyan Chapel. The provisions of the Orders in Council relating thereto were duly observed.

TABLE 1.—ABSTRACT OF THE CENSUS RETURNS OF 1851, 1861, 1871, 1881, 1891, AND 1901, WITHIN THE LIMITS OF THE LEEK IMPROVEMENT ACT.

Census Year.	Average Statute Acres.	HOUSES.			PERSONS.			Average number of Persons per house.
		Inhabited	Uninhabited	Building.	Males	Females	TOTAL	
1851	1460	1701	39	22	4315	4781	9066	5·06
1861	1460	2228	101	27	4686	5488	10174	4·56
1871	1460	2386	88	2	5087	6244	11331	4·74
1881	1460	2726	136	18	5874	6991	12865	4·71
1891	1460	3022	169	24	6420	7708	14128	4·67
1901	1460	3380	156	78	6917	8567	15484	4·58

TABLE 2.—SHOWING THE MEAN AGE AT DEATH OF MALES, FEMALES, AND PERSONS WITHIN THE LIMITS OF THE LEEK IMPROVEMENT ACT, DURING VARIOUS PERIODS OF THE 58 YEARS ENDING 1908.—(W.H.H.)

Periods.	Mean Age at Death.		
	Males	Females	Persons
	Years.	*Years.*	*Years.*
10 years 1851-60	23·5	25·9	24·8
10 years 1861-70	29·1	34·7	32·0
10 years 1871-80	30·8	32·3	31·5
10 years 1881-90	32·7	35·9	34·3
10 years 1891-00	36·1	38·4	37·2
Year 1901	34·9	42·6	38·8
Year 1902	32·9	38·3	35·4
Year 1903	36·2	43·2	39·8
Year 1904	38·4	36·3	37·5
Year 1905	37·7	42·7	40·0
Year 1906	39·5	43·8	41·5
Year 1907	39·8	44·5	42·2
Year 1908	39·8	39·8	39·8

TABLE 3.—PERCENTAGE OF ILLEGITIMATE BIRTHS IN LEEK DURING EACH OF THE UNDER-MENTIONED PERIODS OF THE 58 YEARS ENDING 1908.

Period of Years.	Percentage of Illegitimate Births.
10 years 1851-60	9·7
10 years 1861-70	8·8
10 years 1871-80	8·5
10 years 1881-90	6·8
10 years 1891-00	5·6
Year 1901	5·6
Year 1902	7·5
Year 1903	6·6
Year 1904	6·6
Year 1905	8·2
Year 1906	4·7
Year 1907	7·3
Year 1908	5·4

HOUSING OF THE WORKING CLASSES ACT.

During the year 1908 it has not been necessary to resort to the provisions of this Act for closing orders. Ten houses unfit for habitation were closed.

CANAL BOATS ACTS, 1877 AND 1884.

During the year ended December, 1908, 23 Canal Boats were inspected within the Urban Sanitary District of Leek. Notice was given in three instances to have boats docked, overhauled, and repainted.

DAIRIES, COW-SHEDS AND MILK-SHOPS ORDER, 1885.

There are 42 persons registered under the above order. 14 are Milk-shops, and the remainder Dairies and Cow-sheds. There are 166 milch cows kept. All the said premises were inspected twice during the year.

During the year the systematic house to house inspection of property situate within the district has been continued, the total number of premises inspected up to December 31st being 2918.

The following table shows the number of Waterclosets, outside and inside; the number of movable receptacles; the number of ashpits; the number of privies; and the number of houses with defective ventilation at the time of inspection and at the 31st December, 1908.

PERIOD.	Number of Houses Inspected.	Number of Houses with Defective Ventilation.	Waterclosets.				Movable Receptacles.		Ashpits.	Privies.
			Inside.	Outside.			Galvanised Iron.	Wood.		
				How Supplied with Water.						
				Cistern.	Bucket.	Slop Water				
At time of Inspection ...	2918	393	190	449	1769	48	116	2040	217	295
At December 31st, 1908..	2905	67	201	639	1907	48	273	2226	33	100

FRANK GREEN,
Sanitary Inspector.